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AUTHOR Nelson, Gail F.; Hulls, M. Johanna
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ABSTRACT

This paper discusses several studies related to the interplay of verbal and nonverbal communication in young children and presents educational implications of this research. Two areas of nonverbal communication are considered: kinesics, or the use of body movements as displays of affection and emotion and as regulators of communication, and proxemics, the human use of and perception of space. Evidence is given to illustrate that learning to talk with others involves the acquisition of verbal and nonverbal behaviors called "conversation skills." The paper also investigates sex differences in nonverbal communicative responsivity in the context of social perception and interpersonal adaptation. References are made to recent research on verbal and nonverbal interplay between the adult and the child where findings are as yet inconclusive. A list of references on child development and communication accompanies the paper. (MAI)

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The Interplay of Verbal and Non-Verbal Communication in Young Children

Gail F. Melson
Department of Child Development and Family Studies
Purdue University

M. Johanna Hulls
Department of Home Economics
University of Texas at Austin

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The objective of our paper is to discuss the research related to the interplay of verbal and nonverbal communication in young children and its educational implications. We propose to discuss verbal and nonverbal behaviors in the context of social interaction. Several aspects will be discussed. These include 1) The field of nonverbal communication 2) The interplay of nonverbal and verbal behaviors and the development of "conversation skills" 3) Sex differences in nonverbal communicative responsiveness and 4) Adult and child communications.

Before reviewing the research in these areas, a conceptual framework for understanding children's communication is necessary. First, we define communication broadly as "the potential ability to influence another." From this definition, we view all interactions between persons as "communicative acts" and therefore, a part of communication. This broad definition implies that all characteristics of both sender and receiver and situation (the physical space, objects, clothing, etc.) are communicatively significant. In reality, social interactions consist of an ebb and flow of these interwoven characteristics, none of which are perceived independently of the others. Thus all social communication is contextual.

For analytic convenience, sender, receiver, and situation characteristics may be separated. Sender and receiver characteristics (to take pair communication as the simplist case) can be further arbitrarily divided into nonverbal and verbal components. This has been the approach of previous research in young children's communication, with the verbal language component receiving major emphasis. The thesis of this paper will be that a more accurate and educationally useful means of understanding children's language development involves a scheme portraying verbal behavior, nonverbal, and situational characteristics as a communicative whole and not distinct components of

communicative acts. Thus the young child's social communication involves an interweaving of verbal and nonverbal behaviors appropriate to the setting in which the interaction occurs.

The Field of Nonverbal Communication

Before discussing young children's nonverbal communication, a brief overview of the field, and a few definitions of terms are in order. First, the term nonverbal communication has been interpreted in a variety of ways. Many define as nonverbal all communication involving neither written nor spoken words. However, Birdwhistell (1970), an early pioneer in nonverbal communication, emphasized that nonverbal communication cannot be so neatly separated from the verbal. Verbal and nonverbal dimensions are intimately interwoven into the fabric of human communication. Similarly, Dance (1967) argues that, while some communication may be nonvocal, it is always verbal. Behaviors are ultimately interpreted in terms of words and hence, are verbal phenomena. Dance gives the following example of the interrelationship between verbal and nonverbal behavior: "A traffic signal derives its meaning from the observer's past experiences in learning law and order through words. The traffic signal, then, in nonvocal and verbal" (1967, p. 290).

Another approach to delineating the areas of nonverbal communication has been suggested by Knapp (1972). According to Knapp, the field of nonverbal communication may be defined by looking at the common directions research has taken. Doing this yields several broad areas of inquiry, including kinesic behavior, para language, proxemics and communicative aspects of the physical appearance of interactants and their physical setting, such as temperature, colors, textures, artifacts, etc. Of these four areas, only the two areas of kinesics and proxemics will be reviewed in this paper.

The range of kinesic behaviors includes gestures, body movements, eye behavior and posture. Ekman and Friesen (1969) classified the functions of kinesic behavior into five categories: 1) emblems, or nonverbal signs that have direct verbal translation, like the A-OK or V-for-Victory signs, 2) illustrators, or nonverbal movements that directly accompany speech, such as the gesticulating arm movements of people at an Italian open market, 3) affect displays, or facial expressions which communicate feeling and emotion, 4) regulators, or nonverbal acts which maintain and regulate the speech and listening of two or more interactants, and 5) adaptors, nonverbal behaviors like fidgeting that possibly indicate personal needs. Adaptors, while hard to define have long been used by sensitive clinicians as cues to conflict areas in their patients.

In kinesic research with young children, principal attention has been given to the use of body movements as displays of affection and emotion and as regulators of communication. These body movements include such behaviors as eyegaze, smiles and other facial expressions, head nods, and body orientation. This is not to deny the existence of the other three categories of behavior in young children. For example, children use body motion as emblems, the "bye-bye" wave to Daddy perhaps being the first. Children also accompany speech with illustrators, which are partly culturally determined, but research on this category of kinesic behavior is almost nonexistent. Finally, children display body movements as adaptors, but a discussion of adaptor movements is perhaps most appropriate to a therapeutic context. The use of the body to communicate affect and regulate social interaction, however, is most central to an understanding of social communication in young children.

Proxemics, the second area of communication to be discussed, deals with th study of human use and perception of the space. General studies in proxemics have focused on how seating arrangements in small groups affect leadership and communication flow, how architectural features structure spatial relations, the perception and consequences of crowding, and finally, the determinants and effects of personal space, an individual's preferred interpersonal distance. Work on personal space has uncovered a complex set of determinants which include, among others, sex, status, cultural background, level of acquaintance, nature of interaction, role definitions.

Of particular importance in young children's communication is the function of interpersonal distance. This refers to the distance maintained between individuals during an interaction. Hall (1966) suggests the distance maintained between individuals helps to define the nature of the relationship. Close distances are associated with higher levels of intimacy and far distances with lower levels.

Kinestics and proxemics, while two discriminable categories of nonverbal communication, actually function together in natural settings. The child may increase the psychological sense of distance by body motion cues of backward lean and averted eyes or decrease distance by leaning forward, engaging the eyes of his partner and nodding his head in agreement.

The Interplay of Verbal and Nonverbal Communication in Peer Interaction

Imagine the following conversation between two adults, Joe and Mary. Joe: "Hi, how are you?" Mary: "Pretty good, and you?" Now consider the same conversation again. Joe sees Mary in the hall and comes up to her. He turns toward her, smiling, and says, "How are you?" She turns toward him, smiles back and replies, "Pretty good, and you?" Her eyes glance up at him inquiringly and he responds with an A-OK sign.

In removing and then replacing the nonverbal dimension of this brief conversation, one is made aware of how the words exchanged in conversation are embedded in a context of body motions and movements, smiles and frowns, eyes making and breaking contact. Speech is accented and punctuated with hand and body gestures while a kaleidoscope of expression plays over the face. Sometimes, as in the A-OK sign, words are replaced entirely with nonverbal signs.

The importance of this nonverbal context for smooth communication is often evident only when it is absent or disturbed. Disturbed nonverbal communication is characteristic of the autistic child who will not turn toward others or engage their eyes (Hutt & Ounsted, 1966) and the schizophrenic who either comes too close or stays too far from others (Horowitz, et al., 1964). Another type of disturbed nonverbal communication may occur when members of different cultures meet for conversation. Hall (1966) suggests that interpersonal distance is culturally determined. When members of close "contact" cultures (e.g., Arab or Latin American countries) meet with members of more distant "noncontact" cultures, from North America, conflicting nonverbal patterns may produce feelings of confusion and discomfort.

These disturbances in nonverbal communication illustrate that the process of learning to talk with others is not the acquisition of verbal competence alone, but rather, the acquisition of a complex interweaving of verbal and nonverbal behaviors called "conversational skill."

Recently investigators of early language have become interested in the growth of such conversational skill (Mueller, 1972; Garvey, 1974; Garvey & Hogan, 1973; Garvey & Bendebba, 1974; Beach & Sokoloff, 1974). These investigations consider linguistic competence but one dimension of social responsivity. In their view the child's social skills are comprised of verbal and nonverbal components. Hence, disturbances in verbalizing may be linked to

inadequate use of nonverbal cues. Similarly, poor perception of nonverbal signals may help to maintain a verbal deficit. This interactive view of language and social interaction has begun to address a number of practical problems in the care and education of young children. For example, why are some children social isolates? What can be done to improve impoverished language competencies in young children?

Recent evidence supports this view that early language is not just a matter of stringing words together and inferring a grammatical structure, but also involves social responsivity and empathetic skills. Traditionally, most research on children's verbal communication reflected the work of Piaget in assuming that children until about five to seven were largely egocentric and incapable of sustained, mutually responsive interaction. Current research, however, has emphasized the surprisingly sophisticated abilities of even very young children to sustain interaction, to show responsivity toward others and to adapt to the perceived needs and perspectives of their interactants. A few findings illustrate this quite nicely. Garvey and her co-workers (Garvey, 1974; Garvey & Bendebba, 1974; Garvey & Hogan, 1973) have shown that preschoolers adapt the number of utterances they make to the output of their playmates. Welkowitz, et al. (1976) found the same sender-receiver adaptation when length of pauses between utterances was examined. Another study (Shatz & Gelman, 1974) found that young children are able to adjust their conversation to the presumed developmental level of their listeners. In this study, a four-year-old was asked to explain a toy to a two-year-old, a four-year-old peer and an adult. When speaking to the younger child, the four-year-old "toned down" the complexity of his utterances, but restored that complexity when speaking to his peers or elders. Data now being analyzed at Purdue's Child Development Laboratories (Cohen & Melson, in preparation) indicate that

the same type of "fine tuning" occurs when children play with friends vs. non-friends. Greater adaptation took place both in number of utterances, type of utterances and number of pauses when three- and four-year-olds played in low-friendship pairs as compared with high friendship pairs. We feel that this occurs because members of low-friendship pairs are more unsure of each other and hence monitor each other's behavior more closely. With good friends, these children behaved more like old married couples who know each other well enough to go their own way.

This new thrust of research may be summed up thusly; far from being egocentrically indifferent to the needs of his listener, the four-year-old is rather subtly attuning his verbal output to differing social situations.

Evidence of interpersonal communicative adaptation is not confined to the verbal aspects of conversation. Mueller (1972) found that the listener's attention-giving signals (looking, body turns) enhanced the verbal responsiveness of preschool children. At Purdue's Child Development Laboratories, we have analyzed videotaped play sessions to determine the extent of both verbal and nonverbal adaptation in children three to five years old. Preliminary evidence suggests both age and sex differences in such adaptation. For example, considering only interpersonal distance, or proxemic behavior, older children (4-5 yrs.) spend significantly more time at an intermediate distance, within arm's reach, while younger children are more apt to play at very close and very far distances. Second-by-second analysis of a ten-minute play session reveals a kind of "conversational dance" among older children. When one child moves away, enlarging interpersonal distance, the other soon moves closer; when one gets "too close," the other soon moves away. In this way the pair tends to remain close to an

"adaptation level" (Helson, 1964) for interpersonal distance. Why are older pairs adapted to an intermediate distance? One hypothesis is based on the relation between verbal and non-verbal components of conversation. At very close and very far distances, it is difficult to perceive facial expression and hence hard to monitor facial nonverbal messages. Older children gravitate to intermediate distances partly because here nonverbal aids to verbal responsivity are best perceived.

Sex differences in Nonverbal Communicative Responsivity:

Sex differences in mutual adaptation to interpersonal distance have also been obtained (Melson, 1977b). Older girls are more likely than older boys to keep to moderate distances. It is likely that such age and sex differences will be obtained in the patterning of other nonverbal behaviors during play. Beach and Sokoloff (1974) studying only four- to five-year-olds, found that for girls, but not for boys, looking at another child covaried with being physically oriented toward that child, and that for both sexes, looking and verbalizations were positively correlated. At Purdue's Child Development Laboratories this research is being extended to include analysis of three-year-old interactions and specifically to test the hypotheses of both age and sex differences in mutual adaptation in body orientation, looking, touch and smiling.

Young girls are more advanced than boys not only in such behavioral adaptation, but also in their social perception of nonverbal cues. For example, Post and Hetherington (1974) found that between the ages of four and six, girls significantly improved in their ability to use eye contact and physical proximity as cues about the nature of an observed interaction, while boys did not. Even with training designed to heighten awareness of these cues, boys were not able to improve their use of the cues significantly.

Becuase of greater cultural emphasis on interpersonal skills in the female sex-role stereotype, it is perhaps not surprising that such sex differences in social perception exist. Post and Hetherington (1974) attribute these female skills, not to better discrimination of social cues, such as physical proximity, but to more frequent spontaneous use of such cues as important information about the nature of a relationship.

These studies imply that in both behavior and perception, young girls are interpersonally more responsive than boys. Thus the affective meaning of both teacher and child behavior may be more readily understood by girls. Girls may also have an advantage in their ability to adapt their communication to the setting. Enrichment experiences in interpersonal sensitivity will have different effects on the sexes, with girls more readily absorbing such experiences. However, this research should not imply that boys are interpersonally unresponsive, but only that they may use different cues in evaluating a relationship. Further research is needed to determine what these cues are and how they may be used to help young boys improve their interpersonal skills.

Studies of social perception and interpersonal adaptation in young children are also helpful when one must attempt to aid the child for whom peer play is a problem. The social isolate can be taught to give out rewarding nonverbal behavior, like smiles, to which other children will respond (Keller & Carlson, 1974). Exposure to short training sessions, using films of peers smiling, talking and imitating each other have resulted in long-term gains in social interactions. Since it appears that children, like adults, elicit and maintain interpersonal attention through their nonverbal behaviors, the isolated and unresponsive child can be taught those inter-

personal skills. As other children begin to respond to the isolate's initiatives, they reward him with attention and tend to reinforce his newly-learned skills further.

While recent studies of young children's play have emphasized the surprisingly sophisticated interpersonal sensitivity and adaptation of preschool children, one must not lose sight of the simple truth that the young child does not have the verbal and nonverbal skills of the older child and adult. The young child is in the process of learning conversational skill and while the learning process may have started earlier than had been assumed, it is by no means over. Since this discussion began with Mary and Joe in the hall, let us look at little Joe and Mary (both 4) at the nursery school block corner. By listening and looking in on their hypothetical conversation, one may obtain a clearer idea of just how young children's conversation differs in crucial respects from that of both older children and adults.

> Joe is building a tower. He moves back and forth, bending down and reaching up. Mary approaches the block corner. She looks at the tower, glances at Joe, looks at the tower again. "What're you doing, Joe?" Joe does not stop his movement. As he reaches up to place the tenth block, he says,"Building a tower, building a tower." Mary takes a few steps toward some unused blocks, squats down and, as she intently places the blocks end-on-end, she says, I'll build a house, we can have a town." Behind her, Joe's voice answers, "OK, great, a town."

This episode was chosen to illustrate several things. First, the verbal exchanges between the two children are socially responsive. However, when one analyzes their nonverbal behavior, it becomes apparent that such behavior from an adult would appear at best unresponsive, at worst insulting. Joe

looks at what he is doing and Mary, after the first glance, does the same. They make little use of proximity, body orientation, eye glances and facial expression to support and monitor the verbal exchange. Their attention is focused on the play, not the conversation which, while interpersonally responsive, exists to support the play.

This pattern may be contrasted to adult conversation in which, unless the situation demands it (e.g., conversation on the assembly line), nonverbal behaviors are used to support, monitor and communicate affect concerning the interaction. Perhaps the young child lacks the cognitive skill to shift attention rapidly from work (and the child's play is his work) to his conversational partner. This conclusion is supported in a recent study completed by the authors (Hulls, Melson & Cohen, 1977). Pairs of children played in three situations: a conversation without toys setting, a task-oriented block play situation and a third situation in which both task materials and another child were available. Children shifted gears nicely from the conversation to the task situation. When the former was compared with the latter, they talked more to their partner, used more interpersonally responsive social speech, smiled and gazed more frequently. However, the children did not discriminate between the task situation and the third setting, in which both social and task cues were available, treating both as task-like situations. One would expect that with increasing age, the young child would be more able to simultaneously orient himself toward both work and interactants. Furthermore, because of widely noted sex differences in verbal proficiency and social orientation, one would also expect girls to exhibit earlier proficiency in nonverbal monitoring of conversation than boys.

Analysis of videotaped play interactions of three-, four- and five-year-olds at Purdue's Child Development Laboratories indicates such age and sex differences. For example, preschool girls do engage in more interpersonal body orientations than males.

Nonverbal and Verbal Components of Adult and Child Communication:

This research on peer interactions raises questions concerning the nature of conversation between child and teacher and child and parent. Unfortunately, detailed evidence of verbal-nonverbal interplay in such conversations is not available. There is some indication that adults, like children, respond with more social attention to children who look at them, smile and come toward them, while speaking. If girls do incorporate these nonverbal behaviors into conversation earlier than boys, it should not be surprising that a number of studies find that girls and "feminine behaviors" are more frequently rewarded by nursery school teachers than boys and "masculine behaviors."

Many more questions remain concerning the interplay of verbal and nonverbal behaviors in conversation with adults. Are there predictable group or individual differences in the interplay of verbal and nonverbal communication among adults? A recent study of classroom teaching behaviors (Keith, Tornatsky & Pettigrew, 1974) suggests an affirmative answer. Videotapes of teachers indicated that approval tended to be nonverbally expressed while disapproval was likely to be explicitly verbal. Since girls are more attuned to nonverbal cues than boys, one would infer that more teacher approval is perceived by the girls in the classroom even if objective levels of approval are the same for both sexes. Secondly, are there early experiences which might underlie communicative skill? Are there periods of maximal sensitivity to adult modeling? In a recent dissertation study at Purdue (Watson, 1975)

no differences were found in the way mothers or fathers nonverbally interacted with highly empathetic vs. nonempathetic children. Perhaps social communicative responsivity is learned by observing adults interacting with each other, not by direct parent-child exchanges. Perhaps parental stimulation during the first year of life is crucial for later social communication skills. We know, for example, that mutual eye gaze between caretaker and infant is an important determinant for attachment(Moss, 1967). Here, speculation must await further research for answers. What is known is that conversational skill is a complex interweave of verbal and nonverbal competencies and that sex differences appear rather early in the child's social life.

It is, unfortunately, typical of the state of empirical investigation in this field to end a review of current research with the refrain "how little we know, how much to discover." Yet, the state of the art is akin to early space exploration, exciting in its discoveries of uncharted realms of sophistication and fine tuning in the communicative skills of children. We have come a long way from Piaget's view of the young child as essentially egocentric to a new appreciation of both his/her motivation and skill to socially engage with others. We have come a long way, too, from narrow attention to linguistic output to a broad awareness of how the entire context of communication forms one interwoven whole.

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